pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0022187**
Facility Type	**Municipal**	APS ID	**1006217**
Major / Minor	**Minor**	Authorization ID	**1296276**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Beavertown Municipal Authority**	Facility Name	**Beavertown Municipal Authority Sewer System**
Applicant Address	419 Old Orchard Drive	Facility Address	336 N. Kern Street
	Beavertown, PA 17813		Beavertown, PA 17813-9714
Applicant Contact	Phil Walter	Facility Contact	Phil Walter
Applicant Phone	(570) 658-2505	Facility Phone	(570) 658-2505
Client ID	64430	Site ID	458721
Ch 94 Load Status	Not Overloaded	Municipality	Beavertown Borough
Connection Status	No Limitations	County	Snyder
Date Application Received	November 15, 2019	EPA Waived?	Yes
Date Application Accepted	November 25, 2019	If No, Reason	

Purpose of Application: Application for the renewal of the existing individual NPDES permit.

Summary of Review

Beavertown Municipal Authority has submitted an application for the renewal of the existing NPDES Permit PA0022187 for the Department's review. DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		/s/ *Jonathan P. Peterman* Jonathan P. Peterman / Project Manager	March 26, 2020
		/s/ *Nicholas W. Hartranft* Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.16
Latitude	40º 45' 18.67"	Longitude	-77º 10' 35.84"
Quad Name	Beavertown	Quad Code	1228
Wastewater Description:	Sewage Effluent		

Receiving Waters	Luphers Run (CWF, MF)	Stream Code	17877
NHD Com ID	54969479	RMI	0.32
Drainage Area	1.74	Yield (cfs/mi^2)	0.1134
Q_{7-10} Flow (cfs)	0.5923	Q_{7-10} Basis	Stream Gage No. 1565000
Elevation (ft)	611	Slope (ft/ft)	0.003
Watershed No.	6-A	Chapter 93 Class.	CWF, MF
Existing Use	CWF	Existing Use Qualifier	N/A
Exceptions to Use	None.	Exceptions to Criteria	None.
Assessment Status	Impaired		
Cause(s) of Impairment	ORGANIC ENRICHMENT		
Source(s) of Impairment	MUNICIPAL POINT SOURCE DISCHARGES		
TMDL Status	Pending	Name	

Nearest Downstream Public Water Supply Intake	United Water Pennsylvania		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	2610
PWS RMI	76.73	Distance from Outfall (mi)	63

Changes Since Last Permit Issuance: The updated Q_{7-10} data was obtained from the updated stream gage information obtained from *Stuckey, M.H., and Roland, M.A., 2011, Selected Streamflow Statistics for Streamgage Locations In and Near Pennsylvania*. The previous analysis, which is attached, indicates that the contributing upstream area of Kern Run is approximately 5.34 mi^2. Previous analysis indicates that there is a minimum discharge from the upstream reservoir on Kern Run of 0.79 cfs. Estimating a 50/50 diversion of flow between the Luphers Run contribution and the Kern Run parallel channel, 0.395 cfs would be contributed to Luphers Run. Adding this flow to the flow contributions from Luphers Run (0.1973 cfs) would bring the Q^{7-10} to 0.5923 cfs which will be used in the review of the TRC value.

Other Comments: None.

Treatment Facility Summary

Treatment Facility Name: Beavertown Municipal Authority Sewer System
Tributary Sewer System Information: The facility receives flows primarily from the Beavertown Borough (98.2%) and a minor amount of the flow contribution is from Beaver Township (1.8%).

WQM Permit No.	Issuance Date	Notes:
5581401	4/7/1981	Initial construction.
5585402	6/20/1985	Pump station.
5588405	7/5/1988	Pump station.
5500404	3/19/2002	Two pump stations, communitor, three cell aerated lagoon treatment units, and chlorination/dechlorination system.
5503403	9/17/2003	Construction of new SBR.
5503403-A1	6/12/2006	Modifications to conveyance system, pump station, and chlorination system.

Waste Type	Degree of Treatment	Process Type	Disinfection	Design Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Sequencing Batch Reactor	Chlorine With Dechlorination	0.16
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.44	299	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: None.

Other Comments: None.

Treatment System Components for Outfall 001:
- One (1) Influent mechanical bar screen.
- One (1) Influent wet well.
- Three (3) Raw sewage pumps.

- Two (2) SBRs.
  - Two (2) Mixers.
  - Two (2) Decanters.
  - Three (3) Blowers
- One (1) Chlorination System.
  - Sodium Hypochlorite.
  - One (1) Contact Tank.
  - One (1) Weir.
- One Dechlorination System
  - Sodium Bisulphite.
  - One (1) Dechlorination Tank.
- One (1) Outfall 001 to Luphers Run.

- One (1) Sludge conditioning tank.
- One (1) Digester / sludge holding tank.

Changes Since Last Permit Issuance: None.
Other Comments: None.

TMDL Impairment

The Departments Geographical Information System indicates that there are no associated TMDLs for this segment of Luphers Run. However, it does indicate that this segment is impaired for Organic Enrichment and Low D.O. The source of this impairment is listed as Municipal Point Sources. See Appendix E for the Aquatic Biological Investigation conducted by the Department on this stream segment. The initial investigation (2009) did not recommend adjustment to the permit limits, permit conditions, or WET test implementation but future investigation to determine if the effects are acute or chronic. The final investigation (2012) concluded that the effects of organic enrichment noted in the watershed area chronic problem that can be attributable to the Beavertown Municipal Authority's discharge. This impairment will be taken into account during the review. D.O. limits will be placed at criteria and effluent limits will be implemented at the most stringent of WQBELs, TBELs, or BPJ. No further TMDL analysis is required.

Chesapeake Bay Requirements

Since this facility's design flow is 0.16 MGD, the permittee will be required to monitor and report TN and TP throughout the permit term at a frequency no less than annually in accordance with the Phase II WIP Chesapeake Bay Strategy for Phase V facilities (0.002 MGD to 0.2 MGD). Therefore, the proposed effluent limits were updated to contain the yearly monitoring requirements for nutrients.

Anti-Backsliding

In accordance with 40 CFR 122.44(l)(1) and (2), this permit does not contain effluent limitations, standards, or conditions that are less stringent than the previous permit.

Existing Effluent Limitations and Monitoring Requirements

Existing Limits – Outfall 001

Discharge Parameter	Limitations							
	Mass (lb/day)		Concentration (mg/L)				Monitoring Requirements	
	Monthly Average	Daily Maximum	Minimum	Average Monthly	Average Weekly	Instantaneous Maximum	Minimum Frequency	Sample Type
Flow (MGD)	Report	Report					Continuous	Meter
C-BOD_5	33	53		25	40	50	1/ Week	8-Hr. Comp.
BOD_5 Raw Sewage Influent	Report	Report		Report			1/ Week	8-Hr. Comp.
TSS	40	60		30	45	60	1/ Week	8-Hr. Comp.
TSS Raw Sewage Influent	Report	Report		Report			1/ Week	8-Hr. Comp.
TRC				0.33		0.77	1/ Day	Grab
pH (Std. Units)			6.0			9.0	1/ Day	Grab
D.O.			5.0				1/ Day	Grab
NH_3-N (5/1–10/31)	4.7	7.0		3.5	5.25	7.0	1/ Week	8-Hr. Comp.
NH_3-N (11/1-4/30)	14	21		10.5	15.75	21		
Fecal Coliforms (5/1-9/30)	200 colonies/100 ml as a geometric mean					1,000	1/ Week	Grab
Fecal Coliforms (10/1-4/30)	2,000 colonies/100 ml as a geometric mean					10,000		

Total Nitrogen	Report Annual Average	Report Total Annual		Report Annual Average			1/ Year	8-Hr. Comp.
Total Phosphorous	Report Annual Average	Report Total Annual		Report Annual Average			1/ Year	8-Hr. Comp.

*The existing effluent limits for Outfall 001 were based on a design flow of 0.16 MGD.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.16
Latitude 40º 45' 18.00" **Longitude** -77º 10' 35.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

To establish whether or not water-quality based effluent limitations (WQBELs) are required, the Department models in-stream conditions. In order to determine limitations for CBOD5, ammonia-N and dissolved oxygen, the Department utilizes the WQM 7.0 v1.0b model and in order to determine limitations for toxics, the Department utilizes the PENTOXSD v2.0d model.

WQM 7.0 for Windows, Version 1.0b, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen
Given that there have been no changes to the facility, the discharge, or the receiving stream, the previous modeling results will be utilized. The model previously was run using the Q7-10 stream flow, background water quality, average annual design flow, and other discharge characteristics. The existing water technology-based limits for $CBOD_5$ (25 mg/l) and water quality-based NH3-N (3.5 mg/l) were used as inputs for the modeling. The DO minimum daily average criterion from §93.7 (5.0 mg/L for CWF) was used for the in-stream objective for the model. The summary of the output is as follows:

Parameter	Effluent Limit		
	30 Day Average	Maximum	Minimum
CBOD5	25	N/A	N/A
Ammonia-N	3.5	7.0	N/A
Dissolved Oxygen	N/A	N/A	3

The model does not recommend water-quality based effluent limitations with regards to CBOD5 and dissolved oxygen. Refer to the Appendix for the WQM 7.0 inputs and results. Additionally, the model indicates that the effluent limits for ammonia-nitrogen as shown above are still protective of water quality. These limits will be implemented.
Comments: None.

Best Professional Judgment (BPJ) Limitations
See Dissolved Oxygen section below.
Comments: None.

Additional Considerations
None

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit and reflect the most stringent limitations amongst the abovementioned technology, water quality, and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001) and/or BPJ.

Proposed Limits - Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date

Discharge Parameter	Limitations							
	Mass (lb/day)		Concentration (mg/L)				Monitoring Requirements	
	Monthly Average	Daily Maximum	Minimum	Average Monthly	Average Weekly	Instantaneous Maximum	Minimum Frequency	Sample Type
Flow (MGD)	Report	Report					Continuous	Meter
C-BOD_5	33	53		25	40	50	1/ Week	8-Hr. Comp.
BOD_5 Raw Sewage Influent	Report	Report		Report			1/ Week	8-Hr. Comp.
TSS	40	60		30	45	60	1/ Week	8-Hr. Comp.
TSS Raw Sewage Influent	Report	Report		Report			1/ Week	8-Hr. Comp.
TRC				0.33		0.77	1/ Day	Grab
pH (Std. Units)			6.0			9.0	1/ Day	Grab
D.O.			5.0				1/ Day	Grab
NH_3-N (5/1–10/31)	4.7	7.0		3.5	5.25	7.0	1/ Week	8-Hr. Comp.
NH_3-N (11/1-4/30)	14	21		10.5	15.75	21		
Fecal Coliforms (5/1-9/30)	200 colonies/100 ml as a geometric mean					1,000	1/ Week	Grab
Fecal Coliforms (10/1-4/30)	2,000 colonies/100 ml as a geometric mean					10,000		
Total Nitrogen	Report Annual Average			Report Annual Average			1/ Year	8-Hr. Comp.
Total Phosphorous	Report Annual Average			Report Annual Average			1/ Year	8-Hr. Comp.

*The proposed effluent limits for Outfall 001 were based on a design flow of 0.16 MGD.

Effluent Limit Determination for Outfall 001

General Information
All of the limits proposed above are consistent with other permits issued for Phase V wastewater treatment plants in the region. The associated mass-based limits (lbs/day) for all parameters were based on the formula: design flow (average annual) (MGD) x concentration limit (mg/L) at design flow x conversion factor (8.34). All effluent limits were then rounded down in accordance with the rounding rules established in the *Technical Guidance for the Development and Specification of Effluent Limitations (362-0400-001)*, Chapter 5 - Specifying Effluent Limitations in NPDES Permits. The existing monitoring frequencies and sample types for these parameters generally correspond with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3 and will remain.

Flow
Reporting of the daily maximum flow is consistent with monitoring requirements for other treatment plants of this size.

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)
The results of the WQM 7.0 model show that the previously applied secondary treatment standards (25 PA Code §92a.47 (a) (1&2)) for $CBOD_5$ are protective of water quality.

Total Suspended Solids (TSS)
The previously applied technology based secondary treatment standards (25 PA Code §92a.47 (a) (1&2)) for TSS will remain as well.

pH
CFR Title 40 §133.102(c) and 25 PA Code §95.2(1) provide the basis of effluent limitations for pH. The existing limits will remain.

Fecal Coliforms
The existing fecal coliform limits with I-max limits were updated from the previous Chapter 92 code to correspond with what is specified in the updated 25 PA Code § 92a.47 (a)(4)&(5) and will remain.

Ammonia-Nitrogen (NH3-N)
The results of the WQM 7.0 model show that the previously applied water quality for Ammonia-Nitrogen are still protective of water quality and will remain.

Dissolved Oxygen (DO)
A minimum Dissolved Oxygen (DO) standard in Chapter 93 for cold water fishes of 5.0 mg/L was previously established to ensure that the discharge does not contributes to an in-stream excursion above the allowable ambient concentration of State numeric criteria within a State water quality standard for an individual pollutant. Discharges of concentrations less than this value could contribute to the impairment of D.O in this segment

Influent BOD_5 and TSS
The Department requires the reporting of raw sewage influent monitoring for BOD_5 and TSS in all POTW permits. This provides the Department with the ability to monitor the percent removal of each parameter as stipulated in section 2 of the Part A conditions and maintain records of the BOD_5 loading as required by 25 Pa. Code Chapter 94. The monitoring frequencies and sample types are identical to the effluent sampling.

Total Residual Chlorine (TRC)
In accordance with 25 Pa. Code 92a.48(b)(2), a best available technology (BAT) value of 0.5 mg/l was used in the TRC Spreadsheet. The attached TRC model indicates that the existing water quality-based effluent limit of 0.33 mg/L (Average Monthly) and 0.77 mg/L (Instantaneous Maximum) are still protective of water quality.

Compliance History

Summary of Inspections -The last inspection of the facilities was conducted on 10/21/19 by the Department. The inspection report indicates that the facility was operating normally.

WMS Query Summary - A WMS Query was run at *Reports - Violations & Enforcements – Open Violations for Client Report* to determine whether there are any unresolved violations associated with the client that will affect issuance of the permit (per CSL Section 609). This query revealed no open violations.

eDMRs Summary - Upon review of the eDMR's, the facility has generally been in compliance with the existing effluent limits except for the fecal coliform violation listed below.

Attachments

Beavertown Appendices

Compliance History

DMR Data for Outfall 001 (from February 1, 2019 to January 31, 2020)

Parameter	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19
Flow (MGD) Average Monthly	0.152	0.126	0.115	0.103	0.042	0.112	0.089	0.089	0.142	0.117	0.176	0.204
Flow (MGD) Daily Maximum	0.450	0.311	0.490	0.295	0.082	0.490	0.190	0.190	0.302	0.225	0.422	0.430
pH (S.U.) Minimum	6.9	7.0	7.0	7.2	7.1	7.0	7.3	7.3	7.1	7.0	7.1	7.0
pH (S.U.) Instantaneous Maximum	7.3	7.4	7.4	7.4	7.4	7.5	7.5	7.4	7.4	7.3	7.6	7.6
DO (mg/L) Minimum	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.0	5.0	5.0	5.0	5.1
TRC (mg/L) Average Monthly	0.22	0.20	0.15	0.11	0.07	0.08	0.10	0.17	0.16	0.12	0.31	0.25
TRC (mg/L) Instantaneous Maximum	0.33	0.33	0.17	0.15	0.14	0.15	0.15	0.21	0.40	0.41	0.50	0.55
CBOD5 (lbs/day) Average Monthly	< 3.0	10.0	< 2.0	< 2.0	< 1.0	< 3.0	< 2.0	< 2.0	4	< 2.0	5.0	6.0
CBOD5 (lbs/day) Weekly Average	6.0	22.0	< 3.0	6.0	< 1.0	< 6.0	< 2.0	< 2.0	7	< 3.0	7.0	9.0
CBOD5 (mg/L) Average Monthly	3.7	10.49	< 3.0	3.82	< 3.0	< 5.0	< 3.0	< 3.05	< 4.8	< 3.0	3.0	< 3.0
CBOD5 (mg/L) Weekly Average	6.29	23.7	< 3.0	7.11	< 3.0	< 3.0	< 3.0	< 3.19	12.1	< 3.0	3.0	< 3.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	112	102	81	137	91	76	55	57	110	62	200	72
BOD5 (lbs/day) Raw Sewage Influent Weekly Average	161	171	135	236	170	111	114	84	206	86	428	114
BOD5 (mg/L) Raw Sewage Influent Average Monthly	131	108	110	127	216	173	131	90	91	111	117	44
TSS (lbs/day) Average Monthly	3.0	2.0	< 1.0	0.7	< 0.4	< 1.0	< 1.0	< 1.0	1	< 1.0	7.0	6.0

TSS (lbs/day) Raw Sewage Influent Average Monthly	91	94	127	153	85	59	47	84	112	52	194	162
TSS (lbs/day) Raw Sewage Influent Weekly Average	160	141	285	415	212	153	72	123	291	65	452	257
TSS (lbs/day) Weekly Average	6.0	3.0	2.0	1.0	< 0.7	4.0	2	3.0	2	2.0	12.0	16.0
TSS (mg/L) Average Monthly	3.2	2.2	< 1.8	1.1	< 1.0	< 1.3	< 2.1	< 1.8	1.6	< 1.7	4.6	3.3
TSS (mg/L) Raw Sewage Influent Average Monthly	108	108	156	115	191	136	122	152	74	88	116	80
TSS (mg/L) Weekly Average	8.0	3.6	2.8	1.6	< 1.6	2.0	3.8	4.4	2.4	2.0	6.8	7.8
Fecal Coliform (No./100 ml) Geometric Mean	2.0	5.0	< 5.0	10.0	21	< 23	< 6.0	< 14	< 4	22	< 2.0	< 4
Fecal Coliform (No./100 ml) Instantaneous Maximum	3.0	62.4	10.8	156.5	866.4	119.9	920.8	1203	579.4	44.3	17.1	< 64
Total Nitrogen (lbs/day) Annual Average		0.5										
Total Nitrogen (mg/L) Annual Average		0.5										
Total Nitrogen (lbs) Total Annual		0.000004										
Ammonia (lbs/day) Average Monthly	0.09	0.09	0.08	0.06	< 0.03	< 0.3	< 0.07	< 0.6	< 0.1	< 0.08	< 0.2	< 0.2
Ammonia (lbs/day) Weekly Average	0.10	0.10	< 0.1	0.06	< 0.05	1.0	0.1	2.0	< 0.1	< 0.09	< 0.2	< 0.3
Ammonia (mg/L) Average Monthly	0.10	0.10	< 0.10	0.10	< 0.10	< 0.67	< 0.13	< 0.72	< 0.10	< 0.10	< 0.1	< 0.10
Ammonia (mg/L) Weekly Average	0.10	1.10	< 0.10	0.10	< 0.10	2.96	0.23	2.50	< 0.10	< 0.10	0.10	< 0.10
Total Phosphorus (lbs/day) Annual Average		0.07										
Total Phosphorus (mg/L) Annual Average		0.064										

Total Phosphorus (lbs) Total Annual		0.00000 05										

Compliance History

Effluent Violations for Outfall 001, from: March 1, 2019 To: January 31, 2020

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	06/30/19	IMAX	1203	No./100 ml	1000	No./100 ml
Fecal Coliform	06/30/19	IMAX	1203	No./100 ml	1000	No./100 ml
Fecal Coliform	06/30/19	IMAX	1203	No./100 ml	1000	No./100 ml

Tools and References Used to Develop Permit	
☒	Q7-10 Analysis and Stream Data (see Appendix **A**)
☒	WQM 7.0 Model Input/Output (see Appendix **B**)
☐	Toxics Screening Analysis v2.4 (see Appendix)
☐	PENTOXSD v2.0d Model Input/Output (see Appendix)
☒	Facility Map and Schematic (see Appendix **C**)
☐	TRC Evaluation Spreadsheet (see Appendix)
☐	Lake Model Output (see Appendix)
☐	WETT Spreadsheet (see Appendix)
☒	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☒	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☒	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☒	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: New and Reissuance Sewage Individual NPDES Permit Applications - Version 1.8 – 10/11/13
☒	SOP: Establishing Effluent Limitations for Individual Sewage Permits– Version 1.5 - 8/23/13
☐	Other: